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**Cc:** Guria, Peter[Guria.Peter@epa.gov]; Delgado, Eric[Delgado.Eric@epa.gov]; Kappelman, David[Kappelman.David@epa.gov]; Beach, John[Beach.John@epa.gov]; Stralka, Daniel[Stralka.Daniel@epa.gov]; Grantham, Nancy[Grantham.Nancy@epa.gov]  
**From:** Smith, Terry  
**Sent:** Fri 9/4/2015 5:19:53 PM  
**Subject:** Fw: R9 8/26 & 8/27 Surface Water Data to load  
R09 SurfaceWater Summary Table 08312015.xlsx

This data set has been reviewed by the HQ PIO and is ready for posting.

PIO: This data set is for samples collected on August 26 and 27 in the San Juan River

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**From:** Guria, Peter  
**Sent:** Wednesday, September 2, 2015 4:58 PM  
**To:** EOC Environmental Unit; Tulis, Dana; EOC\_Manager;; Delgado, Eric; GKM\_databeam@westonsolutions.com; EOC Public Information; Schaefer, Joe; Kappelman, David  
**Cc:** Beach, John; Stralka, Daniel; Hiatt, Gerald; Grantham, Nancy  
**Subject:** R9 8/26 & 8/27 Surface Water Data to load

#### **Human Health and Navajo Nation Agricultural & Livestock Water Screening**

Attached please find validated data on metals concentrations in San Juan River surface water samples collected on 8/26/15 & 8/27/15. Data are the spreadsheet R09\_SurfaceWater\_Summary Table 08312015.

Human Health:

The reported data for dissolved and total concentrations on metals in surface water was compared to the health-based screening levels for a 64-day recreational exposure developed by R8 for this incident; the dissolved metals concentrations were also compared to federal MCLs. **There were a number of human health screening level exceedances, mainly on the reach of the river between Farmington and Four Corners:**

Aluminum: Total aluminum exceeded the R8 Recreational RSL (170,000 ug/L) at SJLP, SJHB (2 samples) and SJSR, ranging 210,000 – 310,000 ug/L (all on 8/27/15). There were no exceedances by dissolved aluminum.

Arsenic: Total arsenic exceeded the R8 Recreational RSL (50 ug/L) at SJHB (2 samples) and SJSR, ranging 53-65 ug/L (all on 8/27/15). There were no exceedances by dissolved arsenic. There was also an exceedance of the MCL (10 ug/L) by dissolved arsenic at SJLP (11 ug/L) on 8/27/15 [total arsenic is not screened against the MCL].

Cobalt: Total cobalt exceeded the R8 Recreational RSL (50 ug/L) at SJLP, SJHB (2 samples), SJSR and SJ4C ranging 62-160 ug/L (all on 8/27/15). There were no exceedances by dissolved cobalt.

Iron: Total iron exceeded the R8 Recreational RSL (120,000 ug/L) at SJLP, SJHB (2 samples), SJSR and SJ4C ranging 130,000-290,000 ug/L (all on 8/27/15). There were no exceedances by dissolved iron.

Lead: Total lead exceeded the R8 Recreational RSL (200 ug/L) at SJHB (2 samples) and SJSR ranging 250-290 ug/L (all on 8/27/15). There were no exceedances by dissolved lead. There was also an exceedance of the MCL (15 ug/L) by dissolved lead at SJLP (33 ug/L) on 8/27/15 [total lead is not screened against the MCL].

Manganese: Total manganese exceeded the R8 Recreational RSL (7,800 ug/L) at SJHB (2 samples) and SJSR, ranging 8,700-10,000 (all on 8/27/15). There were no exceedances by dissolved manganese.

Thallium: Total thallium exceeded the R8 Recreational RSL (2 ug/L) at SJHB (2 samples) and SJSR, all 3 samples measuring 3 ug/L on 8/27/15. There were no exceedances by dissolved thallium.

#### Navajo Nation Agricultural & Livestock Screening Levels:

The reported dissolved and total concentrations for metals in surface water was compared to current Agricultural and Livestock Watering screening levels developed by the Navajo Nation Water Quality Program. **Two metals exceeded applicable Navajo Nation Agricultural or Livestock Water screening levels on 8/27/15:**

On 8/27/15, dissolved aluminum exceeded the Navajo Nation Agricultural Water screening level (5,000 ug/L, dissolved) at SJLP (53,000 ug/L) and SJME (7,800 ug/L) – note that SJME is not along the reach between Farmington and Four Corners.

On 8/27/15, total lead exceeded the Navajo Nation Livestock Water screening level (100 ug/L) at SJLP, SJHB (2 samples), SJSR and SJ4C, ranging 120-290 ug/L; there were no exceedances by dissolved lead.

**All other metals concentrations (both dissolved and total) in San Juan River surface water were at or below applicable Navajo Nation Agricultural and Livestock water screening levels on both 8/26/15 and 8/27/15.**

Sample location Legend:

**San Juan River** (upstream to downstream):

SJLP (Farmington, NM)

SJFP (between Farmington & Hogback)

SJHB (Hogback)

SJSR (Shiprock)

SJDS (between Shiprock & Four Corners)

SJ4C (Four Corners)

MECT (McElmo Creek before confluence with SJR)

SJME (SJR after McElmo Creek confluence)

SJMC (Montezuma Creek)

SJBB (Bluff/Butler)

SJMH (Mexican Hat)

SJPF (SJR confluence with Lake Powell)

Please contact me if you have any questions

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Pete Guria, Deputy Area Commander

GKM Response

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